

CLAIMS

1. A method for regeneration of a particulate filter (7) situated on an exhaust line (5) of an engine (3) of a motor vehicle (1), the method being of the type in which, from knowledge of the differential pressure ΔP at the ends of the said filter (7) and of the pressure $P_{upstream}$ upstream from the said filter (7), the soot burden of the said filter (7) is determined for the purpose of triggering combustion of the said soot,

characterized in that the pressure $P_{downstream}$ downstream from the said filter (7) is modeled and in that $P_{upstream}$ is determined using the relationship $P_{upstream} = \Delta P + P_{downstream}$.

2. A method according to claim 1, characterized in that the said burden is determined by means of the relationship:

$$\Delta P = f(Q_{vol}, \text{mass of soot}), \text{ with:}$$

$$Q_{vol} = K \times (Q_{air} + p_{fuel} \times Q_{carb}) \times N \times T_{upstream} / P_{upstream},$$

where:

- K is a constant,
- Q_{air} denotes the mass flow of air measured by a flowmeter,
- p_{fuel} denotes the density of the diesel fuel,
- Q_{carb} denotes the volumetric quantity of diesel fuel injected into the said engine (3),
- N denotes the rpm of the said engine (3), and
- $T_{upstream}$ denotes the absolute temperature measured upstream from the said filter (7).

3. A device for the use of a method according to claim 1, characterized in that it includes, as the sole pressure sensor, a differential pressure sensor (11) intended to be mounted on the said particulate filter (7).

4. A motor vehicle (1), characterized in that it is equipped with a device according to claim 2.